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TITLE: Optically integrated polarisation junction for monomode transmission systems and its use

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ABSTRACT:

In order to split the light of any desired polarisation which is guided in a monomode strip waveguide into its two orthogonal linearly polarised components and to guide these off in monomode strip waveguides, an optically integrated polarisation junction is specified. As shown in Figure 1, it consists of two monomode input and output waveguides which are combined to form a twin-mode strip waveguide. As a result of birefringent effects the twin-mode interference in twin-mode waveguides is influenced in a different way for the two polarisation directions so that a splitting up of the polarisation components can be achieved. Also after the production of the waveguide structure the splitting ratio of the polarisation components can be altered with the aid of numerous devices.

The optically monomode polarisation junction can be used, for example, as a passive or electrically tunable polarisation-selective branching point or else as a polarisation-independent switch. 